

## VU Research Portal

### **On the Psychology of Perceived Procedural Justice: Experimental Evidence that Behavioral Inhibition Strengthens Reactions to Voice and No-Voice Procedures**

Hulst, J.E.; Van den Bos, Kees; Akkermans, A.J.; Lind, E. Allan

#### ***published in***

Frontiers in Psychological and Behavioral Science  
2017

#### ***document version***

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

#### ***citation for published version (APA)***

Hulst, J. E., Van den Bos, K., Akkermans, A. J., & Lind, E. A. (2017). On the Psychology of Perceived Procedural Justice: Experimental Evidence that Behavioral Inhibition Strengthens Reactions to Voice and No-Voice Procedures. *Frontiers in Psychological and Behavioral Science*, 6(1), 1-12.  
<http://www.academicpub.org/fpbs/paperInfo.aspx?PaperID=17383>

#### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

#### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

#### **E-mail address:**

[vuresearchportal.ub@vu.nl](mailto:vuresearchportal.ub@vu.nl)

First online: 30 March 2017

# On the Psychology of Perceived Procedural Justice: Experimental Evidence that Behavioral Inhibition Strengthens Reactions to Voice and No-Voice Procedures

Liesbeth Hulst<sup>\*1</sup>, Kees van den Bos<sup>2</sup>, Arno J. Akkermans<sup>3</sup>, E. Allan Lind<sup>4</sup>

<sup>1,3</sup>Vrije Universiteit Amsterdam, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands

<sup>2</sup>Utrecht University, Department of Psychology and School of Law, P.O. Box 80.140, 3508 TC Utrecht, The Netherlands

<sup>4</sup>Duke University, Fuqua School of Business, 100 Fuqua Drive, Durham, NC 27708, United States of America

<sup>\*</sup>1.lulst@vu.nl; <sup>2</sup>k.vandenbos@uu.nl; <sup>3</sup>a.j.akkermans@vu.nl; <sup>4</sup>allan.lind@duke.edu

**Abstract**-This paper argues that when people try to sort out whether they are treated in just or unjust manners, they will tend to inhibit ongoing action to pause and check what is going on. In this way, behavioral inhibition can facilitate the procedural justice judgment process of interpreting whether you were treated in just or unjust ways. We further note that receiving opportunities to voice opinions is a key antecedent of perceived procedural justice. Following this line of reasoning, we argued that an experimental manipulation that strengthens behavioral inhibition should lead people to respond more strongly to receiving voice versus being withheld voice in decision-making procedures. In two studies, we found that reminding people of times they acted with public inhibitions (versus not reminding them) indeed led to more negative procedural judgments following no-voice procedures (Study 1) and to more positive procedural justice judgments following voice procedures (Study 2). These findings suggest that higher levels of behavioral inhibition may lead people to become more sensitive to what happens in their environments and, hence, affect the justice judgment process.

**Keywords**- *Procedural Justice; Voice; Behavioral Inhibition; Experiments*

## I. INTRODUCTION

Important law-related behaviors such as people's acceptance of outcomes they receive and voluntary deference to decision-making authorities are linked to their perceptions of how fairly and justly legal authorities treat them during decision-making procedures [1, 2]. This proposition regarding the psychology of procedural justice judgments illustrates that it is important to consider how people come to judge whether they are treated in a fair fashion in legal and non-legal decision-making procedures. In exploring this issue, we focused on the experience of procedural justice and define this as referring to the fairness and justness of the way people are treated within decision-making procedures [3]. Moreover, in this paper, we examine a psychological explanation of why procedural justice judgments are often strongly influenced by whether people feel they have received adequate opportunity to voice their views in decision-making procedures or whether they feel they were denied the opportunity to voice their opinions [4, 5].

### A. The Voice Effect

A key variable that affects judgments of procedural justice in decision-making procedures is whether the person in question feels he or she received an opportunity to voice relevant opinions and views in the decision-making process. This voice effect has been documented in many studies in the field of procedural justice. Indeed, the procedural justice literature has shown robust evidence for a voice effect [5] documenting that allowing (versus not allowing) a person an opportunity to voice his or her opinions about a decision substantially improves judgments of the procedural justice of the decision-making process [5-15]. In this paper, we examine one of the factors that may explain why receiving voice or be withheld voice often strongly affects people's procedural justice judgments. This psychological explanation of the voice effect may well play a role in both legal and non-legal contexts.

Specifically, in two studies we examine how the voice effect is affected by reminding justice recipients about inhibited behavior. In doing so, we build on recent experiments that suggest that activation of the behavioral inhibition system is one of the variables that can affect the psychology of procedural justice [16]. The present research is based on the idea that when people try to assess whether they have been treated in just or unjust manners, they tend to momentarily pause the ongoing action to allow for the processing of potentially useful information [17]. The current line of reasoning holds that during this state of behavioral inhibition, people become more sensitive to what happens in their social surroundings [16, 17]. Because both the receiving of voice and being withheld voice are important salient situational cues, increased behavioral inhibition

hence can be assumed to strongly affect people's judgments whether they have been treated in fair and just ways or unfair and unjust ways. Following this line of thought, we examine here, whether experimental manipulations related to increased behavioral inhibition affect the procedural justice judgment process among people who are responding to the presence or denial of voice.

Hulst et al. [16] found that when participants were reminded of having acted without public inhibitions and hence were exposed to an experimental manipulation that has been shown to deactivate people's behavioral inhibition system [18], their reactions were not much influenced by perceived procedural justice. In contrast, perceived procedural justice did strongly and reliably affect participants' reactions in control conditions where participants answered neutral control questions or in which they were not subjected to experimental intervention. The Hulst et al. [16] findings provide support for the proposition that activation of the behavioral inhibition system is at least part of the explanation of why people are so strongly affected by perceptions of procedural justice. In the research presented here, we seek to extend the insights obtained in Hulst et al. [16] in three important ways. The current work innovates by going beyond earlier studies where manipulations reminded participants of behavioral *disinhibition*. Those manipulations weakened the effect of procedural justice. The current studies extend on these earlier findings by showing for the first time that reminders of inhibition strengthen participants' reactions to voice and no-voice procedures. Thus, the studies reported here go beyond previous work that showed the normal procedural justice effects are reduced by inducing a state of behavioral disinhibition and show that these effects can be strengthened by inducing a state of greater inhibition. It is also worth noting that the current studies used new methods and new research designs, allowing us to examine more carefully the moderation of procedural fairness effects. Let us consider in more detail the innovative contributions of the work reported here.

First, Hulst et al. [16] found that participants' reactions to the experience of procedural justice attenuated when participants were exposed to a *disinhibition* manipulation that asked participants to recall times they had acted *without* public inhibition. In the present studies, we use an *inhibition* manipulation that asks participants to recall having acted *with* public inhibitions. While reminding participants of having acted with no public inhibitions was found to attenuate the effects of perceived procedural fairness, we expected that reminding participants of having acted with public inhibitions should have the opposite effect, strengthening reactions to the fairness or unfairness of procedures. That is, if our line of reasoning has merit, reminding people of having acted with public inhibitions should make them react more strongly to receiving voice or having opportunities for voice withheld in decision-making procedures.

Second, in the current studies, we use an experimental manipulation of the procedure. Experimentally varying whether participants experienced voice or no-voice procedures allow us to study the causal effect of an important component of procedural justice. After all, voice and no-voice opportunities are pivotal aspects of perceived procedural justice [5]. In doing so, we could extend the correlational findings of Hulst et al. [16] on the link between perceived procedural justice and evaluations of decision-making authorities. Specifically, in our experimental manipulation of procedure, we varied whether participants were or were not given voice during the decision-making process and we observed the effect of this manipulation on their procedural justice judgments. This manipulation of procedure is generally accepted in the procedural justice literature as a robust experimental manipulation and a conceptually interesting variable [5, 6, 14, 19].

Third, in the current research, we conducted two studies that presented stimulus information in controlled ways to participants using minimal yet engaging scenarios to examine in a controlled manner the impact of voice or no-voice procedures on procedural justice judgments. This allows us to study the conceptual connection between the psychology of procedural justice and behavioral inhibition under conditions of methodological rigor and control while minimizing noise and error that may naturally be present in real-world contexts. While scenario studies are not without flaws, using this method building on the Hulst et al. [16] field experiments enabled us to study our line of reasoning focusing on the internal validity of the findings.

## B. Behavioral Inhibition

The conceptual connection between procedural justice and the behavioral inhibition system has been examined only in the research of Hulst et al. [16] in contexts where people try to interpret and appraise what is going on in confusing and stressful situations. In the present research, we continue to explore the role of the behavioral inhibition system in the context of more neutral judgment processes, namely following encounters of voice and no-voice procedures in scenario descriptions and we study the impact this has on people's procedural justice judgments.

We note that the behavioral inhibition system [20, 21] is a fundamental psychological system that may be activated to facilitate perception and judgment processes [17, 22]. We build on the assumption that the behavioral inhibition system can be seen as producing alert interest and a pause in activity [23, 24] to allow for the processing of information to make judgments and decisions [22]. In cognitive psychology, these pause-and-check reactions are termed inhibition effects, since ongoing patterns of behavior are inhibited as information is checked [17].

Following this logic, we argue that when people attempt to assess whether they have been treated in just or unjust ways, they may inhibit ongoing behavior and activate the behavioral inhibition system to allow for the processing of information to make procedural justice judgments possible [22, 24]. During this state of behavioral inhibition, salient situational cues such as

receiving or being denied voice become more likely to affect people's procedural justice judgments. Thus, we suggest that behavioral inhibition may be one of the reasons that the often-observed voice effect occurs. In particular, we argue here that when behavioral inhibition is strengthened, people's procedural justice judgments should be more strongly affected by receiving voice or no voice. Because we are predicting a change in the strength of the impact of procedure on justice judgments, we need to examine the role of inhibition as a moderator (not a mediator) of the procedure to justice judgment link. We test this line of reasoning in two main studies.

### *C. Current Research*

We conducted two experiments in which participants read and responded to stimulus information in the context of written scenarios. In both studies, participants were randomly assigned to one of the cells of a 2 (inhibition salience: inhibited behavior versus normal-day behavior) x 2 (procedure: voice versus no voice) between-subjects experimental design.

To examine our line of reasoning, the current research used an experimental manipulation that asked people to recall having behaved with public inhibitions. Specifically, building on earlier manipulations used successfully in a number of earlier studies [16, 18, 25], participants in the experimental conditions were asked to respond to four open-ended stimulus questions about how they experience a situation in which they do not exactly know how to behave, for example when there are people in that situation who might evaluate them, and what feelings they then experience.

Participants in the control conditions were asked to answer four open-ended questions asking how they experience a normal day in their lives. These questions asked how the participant usually behaves on a regular day and what feelings him or her experiences in that normal context. This condition was similar to control conditions in previous research that used previous disinhibition manipulation [18, 25].

In a pretest (described in detail below), we checked whether completion of the questions about having acted with public inhibitions does indeed lead people to be more inhibited than answering the questions that reminded people of normal-day behavior. Data from the pretest indicated that, as intended, reminding individuals of past inhibited behavior successfully strengthened inhibition, with participants in the experimental condition experiencing higher levels of state inhibition than participants in the control condition.

In the main studies, the manipulation of the procedure followed the inhibition manipulation. The procedure manipulation was grounded on previous voice research [5, 7, 14, 26, 27]. The participants assigned to the voice condition read that they would be given an opportunity to voice their opinions; those assigned to the no-voice condition learned that they would not be given an opportunity to voice their opinions.

After this, participants learned of the outcome they received in the scenario, which was held constant across conditions. The dependent variables in both studies were participants' judgments about the way they were treated in the decision-making procedure. There was some variation across the two studies regarding the measures used, to get an indication of the robustness of the effects.

By what we have proposed here, we hypothesized that for participants who have been reminded of inhibited behavior receiving voice or no voice would have a stronger impact on their judgments about the way they were treated in the decision-making procedure, compared to participants who have been reminded of normal behavior on a regular day.

## II. PRETEST

Before conducting the main studies reported in this paper, we checked in a pretest whether completion of the stimulus questions about experiencing inhibitions or experiencing a normal day did indeed lead participants exposed to the former to be more inhibited than those exposed to the latter. Ninety-four students (66 women) at Utrecht University participated in the pretest. The pretest participants could earn money (3 Euros) or course credit for their participation.

The pretest participants were asked to complete paper-and-pencil questionnaires after being informed that they would participate in several unrelated studies. Participants were randomly assigned to the inhibition condition or the control condition. These conditions were identical to those used in the main studies.

In what was presented as a separate first study, participants received either four questions that asked about having acted with no public inhibitions or four questions that reminded them about having behaved normally on a regular day. In the experimental condition, participants were asked to recall having acted with inhibitions because others were evaluating their behaviors. The experimental condition instructions were as follows:

The purpose of this questionnaire is to assess how people experience it when they do not exactly know how they should behave, that is, how people behave when they enter a situation in which they do not exactly know how to behave, for example when there are people in that situation who might evaluate them and what feelings they then experience. To this end, please complete the following four questions: Please briefly describe a situation out of your own life in which you did not exactly know how to behave, for example when there were people who might evaluate you. Please briefly describe the emotions that you experienced in that situation in which you did not know how to

behave. Please briefly describe how you behaved in that situation in which you did not know how to behave. Please briefly describe what you felt physically in that situation in which you did not know how to behave.

The control condition questions were similar to those used in earlier work [16, 18, 25]:<sup>1</sup>

The purpose of this questionnaire is to assess how people experience a normal day in their lives, that is, how people usually behave on a regular day and what feelings they then experience. To this end, please complete the following four questions: Please briefly describe a regular day out of your own life. Please briefly describe how you behave on such a regular day. Please briefly describe the emotions that you experience on such a regular day. Please briefly describe what you feel physically on such a regular day.

In the pretest, this was followed by a rating scale that we constructed specifically to check the experimental manipulation of inhibition salience. This scale consisted of the following thirteen items asking participants to what extent: “Do you now feel inhibited?”, “Do you now feel with no inhibitions?” (reverse coded), “Were you looking for the other person to assess how you could best behave yourself?”, “Were you feeling uneasy at first in that situation?”, “Were you aware of the other person (who might evaluate you)?”, “Were you paying attention to the reactions of the other person (who might evaluate you)?”, “Were you trying to assess how to best behave in that situation?”, “Were you paying attention to how the other person (who might evaluate you) interacted with you?”, “Were you aware of the other person (who might evaluate you)?”, “Were you taking notice of the other person (who might evaluate you)?”, “Were you looking to the other person to assess what was going on exactly?”, “Were you paying attention to what was exactly happening in that situation?”, “Were you waiting to see what was going on in that situation?”. All ratings were used 7-point Likert-type scales (where 1 = *not at all*, 7 = *very much*).

A principal component analysis suggested this scale consists of one dimension, with an eigenvalue of 7.25 and explained variance of 55.74%. A factor analysis using a Maximum Likelihood method of extraction also suggested a one-factor solution. Participants’ answers to the 13 items were internally consistent ( $\alpha = .93$ ), and average scores were used for interpretation, with higher scores indicating higher levels of state inhibition.

Analysis of variance with the salience manipulation as the independent variable and our 13-item state inhibition scale as the dependent variable showed the expected results. Participants in the inhibition salient condition reported higher levels of state inhibition ( $M = 5.44$ ,  $SD = 0.75$ ) than did participants in the control condition ( $M = 4.04$ ,  $SD = 1.16$ ),  $F(1, 90) = 48.26$ ,  $p = .000$ ,  $\eta_p^2 = .350$ .<sup>2</sup>

After completing our 13 inhibition items, participants completed a state version of the Behavioral Inhibition Scale (BIS; [20]). Unfortunately, the internal consistency of this measure was too low ( $\alpha = .53$ ) to check in a reliable and meaningful way whether inhibition salience had an effect on this BIS scale. We will return to these findings in the General Discussion.

Consistent with the reasoning advanced above, the results of the pretest showed that inhibition salience significantly affected scores on the Situational Self-Awareness Scale (SSAS; [28];  $\alpha = .44$ ),  $F(1, 88) = 10.32$ ,  $p = .002$ ,  $\eta_p^2 = .105$ , with participants in the inhibition salient condition reporting greater situational self-awareness ( $M = 4.64$ ,  $SD = 0.85$ ) than did participants in the control condition ( $M = 4.08$ ,  $SD = 0.80$ ). Follow-up analyses showed that inhibition salience significantly affected the public subscale of the SSAS,  $F(1, 89) = 11.06$ ,  $p = .001$ ,  $\eta_p^2 = .111$ .<sup>3</sup> The public situational self-awareness subscale consists of three items: “Right now, I am concerned about the way I present myself”, “Right now, I am self-conscious about the way I look”, “Right now, I am concerned about what other people think of me” ( $\alpha = .64$ ). Findings of our pretest showed that participants in the inhibition salient condition reported more public self-awareness ( $M = 4.50$ ,  $SD = 0.87$ ) than did participants in the control condition ( $M = 3.78$ ,  $SD = 1.20$ ). The finding that the inhibition salience strengthens situational self-awareness, especially public situational self-awareness fits with our line of reasoning.

We then assessed whether inhibition salience affected a state version of the brief Fear of Negative Evaluation Scale (FNE; [29]). In the pretest, we used a state version of the straightforwardly worded version of the FNE as used by Carleton, McCreary, Norton, & Asmundson [30] and by Rodebaugh, Woods, Thissen, Heimberg, Chambless, & Rapee [31]. The reliability of this

<sup>1</sup> The instruction and three open-ended questions used in the control conditions were identical to control conditions in previous research that used a disinhibition manipulation (e.g., [18, 25]), except that an additional fourth question was used about what participants feel physically on a regular day. Although outside the scope of our current testing of the inhibition hypothesis, we also included as an exploratory element in Study 1 (and not in the Pretest and Study 2) a condition with reminders of behavioral disinhibition as used in earlier work ([18, 25]). This disinhibition condition was only marginally significantly affecting participants’ reactions to voice and no-voice procedures compared to the control condition. Thus, the disinhibition condition was dropped from the analyses reported here so that in all three studies presented in this paper (the Pretest and Studies 1 and 2) we focus on how behavioral inhibition versus a neutral state affect reactions to voice and no-voice procedures. Complete details and results are available from the first author.

<sup>2</sup> On some scales used in this pretest some participants had missing values, explaining the degrees of freedom reported.

<sup>3</sup> The SSAS consists of three subscales, focusing on public, private, and surroundings situational self-awareness. The private subscale of the SSAS (e.g., “Right now, I am conscious of my inner feelings”) yielded a level of internal consistency that was too low to warrant subsequent analyses ( $\alpha = .22$ ). The inhibition manipulation did not significantly affect the surroundings subscale of the SSAS (e.g., “Right now, I am conscious of all objects around”;  $\alpha = .73$ ),  $F(1, 89) = 1.51$ ,  $p = .22$ ,  $\eta_p^2 = .017$ .

measure was rather low ( $\alpha = .68$ ), but sufficient for theory-testing purposes [32]. The state FNE consists of 12 items example items are: “At this moment, I could be afraid of other people noticing my shortcomings” and “At this moment, I am afraid others will not approve of me”. The effect of inhibition salience on scores on FNE was not statistically significant, but participants in the inhibition salient condition did show a nonsignificant trend to reporting somewhat higher levels of state fear of negative evaluation ( $M = 4.27$ ,  $SD = 0.91$ ) than did participants in the control condition ( $M = 3.94$ ,  $SD = 0.99$ ),  $F(1, 90) = 2.86$ ,  $p = .09$ ,  $\eta_p^2 = .031$ . This trend is in line with our line of reasoning.

Furthermore, we assessed the effects of inhibition salience on behavioral activation and self-monitoring. Findings showed that inhibition salience did not influence significantly a state version of the Carver and White [20] 13-item Behavioral Activation Scale (BAS;  $\alpha = .87$ ). There are three subscales in the BAS: reward responsiveness (e.g., “At this moment, I would be excited to win a contest”;  $\alpha = .67$ ), drive (e.g., “At this moment, I would go out of my way to get things that I want”;  $\alpha = .83$ ), and fun seeking (e.g., “At this moment, I am doing things for no other reason than that they might be fun”;  $\alpha = .74$ ), and neither subscale yielded significant effects of the inhibition salience,  $F_s < 0.84$ ,  $p_s > .36$ ,  $\eta_p^2 < .01$ , nor was the global BAS scale affected by inhibition salience,  $F(1, 84) = 0.178$ ,  $p = .674$ ,  $\eta_p^2 = .00$ .

Similarly, inhibition salience did not significantly affect a state version of the Lennox and Wolfe [33] Self-Monitoring Scale. This scale consists of two subscales: Ability to modify self-presentation (e.g., “In social situations, I would now have the ability to alter my behavior if I feel that something else is called for”;  $\alpha = .73$ ) and Sensitivity to experience behaviors of others (e.g., “At this moment, I am able to read people’s true emotions correctly through their eyes”;  $\alpha = .85$ ), and neither subscale yielded significant effects of inhibition salience,  $F_s < 1.28$ ,  $p_s > .26$ ,  $\eta_p^2 < .01$ , nor were the two subscales combined affected by inhibition salience,  $F(1, 88) = .163$ ,  $p = .69$ ,  $\eta_p^2 = .002$ . It fits with our line of reasoning that inhibition salience does not affect behavioral activation and self-monitoring.

Thus, findings of the pretest provide evidence that reminding participants of past inhibited behavior (versus normal-day behavior) was a manipulation that indeed leads people to be more inhibited as checked by a reliable scale specifically constructed for the current purposes. It fits with our line of reasoning that our experimental manipulation of inhibition salience was also found to strengthen situational self-awareness, especially public situational self-awareness, and to some extent levels of fear of negative evaluation. The inhibition manipulation did not influence behavioral activation, nor did it influence self-monitoring. This suggests that our manipulation was not acting as some sort of action priming or self-monitoring stimulus. With these findings in mind concerning our experimental manipulation, we move to Studies 1 and 2 where the goal was to investigate how this manipulation would influence procedural justice perceptions among people who are responding to receiving voice in decision-making procedures or being withheld voice.

### III. STUDY 1

#### A. Method

##### 1) Participants and Design:

One hundred and fourteen students (84 women) from a variety of scientific disciplines at Utrecht University and VU University Amsterdam participated voluntarily in the study. The participants were assigned randomly to one of the four cells of a 2 (salience: inhibited behavior versus normal-day behavior)  $\times$  2 (procedure: voice versus no voice) between-subjects design. Each of the conditions contained between 27 and 29 participants. Participants’ ages varied from 17 to 31 years, averaging 21.17 years ( $SD = 2.41$ ). A G-power analysis [34] indicated that with  $\alpha = 0.05$ , and a large effect size of procedural justice as often found in previous procedural justice research ( $f = .4$ ; [8, 19, 35]) the sample of Study 1 has very high statistical power of .99 to detect the predicted main effect of our procedure manipulation and the interactive effect of the procedure and inhibition manipulations [36].

##### 2) Experimental Procedure:

We approached individuals in university canteens at Utrecht University and VU University Amsterdam and asked if they would be willing to fill out a questionnaire on how people behave in social situations and complete other material for two unrelated studies being conducted by colleagues. When participants agreed to complete the questionnaire, we handed them a questionnaire and asked them to fill out the questionnaires individually. Then we moved away, remaining in the same room. If the participants did not return the materials sooner, after about 10 minutes, we collected the questionnaires.

*Questionnaire.* In what was presented as a separate first study, either participants received the four questions about having behaved with public inhibitions or the four questions about having behaved normally on a regular day (see the pretest for details of the experimental and control manipulation text).

All of the participants then answered the 20-item Positive and Negative Affect Schedule (PANAS; [37]) using a 5-point answering scale (1 = *not at all*, 5 = *very much*). The PANAS was presented as a separate second study. We included the PANAS as a filler task, but it also allowed us to assess whether our inhibition manipulation induced positive or negative affect.

The PANAS has two ten-item subsets [37], one measuring positive affect (PA) and one measuring negative affect (NA). Both subsets were averaged to form reliable scales in this administration ( $\alpha$ 's = .83 and .87, respectively).<sup>4</sup>

After they had completed the PANAS, participants were informed that a third unrelated study would now begin. Participants then read a scenario in which they were told that they either received or did not receive an opportunity to voice their opinions to a decision-making authority. This scenario was that used in Van den Bos, Wilke, and Lind [27]. Participants read the following:

You would like to spend six months in California to conduct research for your Master's thesis. The university that you would like to attend has a very good reputation. In addition, you would be able to work with a highly esteemed professor. All this offers you good career opportunities. However, California has some other advantages as well, for example sun, the ocean, beach, and studying under palm trees. To pay for your stay and research in California, you apply for a grant at *Students Around the World* (SAW). You have to appear before the grant committee of SAW, which will decide whether they will award you the grant, and, if so, how much.

The manipulation of procedure then followed (manipulated information in italics):

You appear before the committee. The committee gives you *voice / no voice*: The committee *asks you/does not ask you* to voice your opinion about the amount of money you think you need for your stay and research in California.

For all participants, the scenario then closed with the following statement:

A week after this you are informed about the amount of money you are granted: You will receive 1500 Euros (for six months California).

After they had read this scenario, we measured participants' judgments of the way they were treated. Our measure of procedural judgments consisted of three items asking participants how fair they were treated by the authority, how just they were treated by the authority, and how satisfied they were with the way they were treated by the authority. Responses to these items were averaged to form a reliable scale of procedural judgments ( $\alpha$  = .90). All ratings were made on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*).<sup>5</sup>

## B. Results

To test our hypothesis that reminders of having behaved with public inhibitions lead people to react more strongly to voice and no-voice procedures, we conducted a 2 (salience: inhibited behavior versus normal-day behavior) x 2 (procedure: voice versus no voice) analysis of variance with the procedural judgment measure as the dependent variable. As noted above, we had predicted a moderation effect--that the inhibition manipulation would alter the magnitude of the procedure effect--so we were especially interested in whether the justice judgments showed an inhibition x procedure interaction. This analysis showed a significant main effect of the procedure manipulation,  $F(1, 110) = 47.84, p < .001, \eta_p^2 = .30$ , indicating that people judged the way they were treated in the decision-making procedure more negatively following no-voice procedures than following voice procedures. There was no significant effect of inhibition salience,  $F(1, 110) = 0.60, p = .44, \eta_p^2 = .01$ . Importantly, the analysis also yielded the predicted inhibition salience x procedure interaction,  $F(1, 110) = 4.08, p = .046, \eta_p^2 = .04$ . Fig. 1 shows the means and standard errors.

As predicted, the control condition showed a simple main effect of the procedure manipulation,  $F(1, 110) = 12.21, p < .001, \eta_p^2 = .10$ . As predicted, findings further revealed that the simple main effect of the procedure manipulation was stronger within the inhibition salient condition,  $F(1, 110) = 39.49, p < .001, \eta_p^2 = .26$ . Thus, Study 1 supported our prediction that participants' procedural judgments would be more strongly affected by being the presence or absence of voice in the inhibition salient condition compared to the control condition.

Looking at the interaction effect across procedures, following no-voice procedures participants' procedural judgments were negative when they had been reminded of having acted normally on a regular day ( $M = 3.14, SE = .22$ ) and were even more negative when they had been reminded of having acted with public inhibitions ( $M = 2.48, SE = .25$ ),  $F(1, 110) = 3.97, p = .049, \eta_p^2 = .03$ . In Study 1, participants' procedural judgments following voice procedures were not statistically different when they had been reminded of having acted normally on a regular day ( $M = 4.29, SE = .21$ ) or having acted with inhibitions ( $M = 4.58, SE = .27$ ),  $F(1, 110) = 0.49, p = .49, \eta_p^2 = .00$ .

<sup>4</sup> In order to assess whether inhibition salience induced positive and/or negative affect, we conducted analyses of variance with inhibition salience as independent variable and the positive and negative subsets of the PANAS as dependent variables. These analyses yielded no significant effects on the positive subset of the PANAS,  $F(1, 90) = 0.19, p = .66, \eta_p^2 = .002$ , and on the negative subset  $F(1, 90) = 1.33, p = .25, \eta_p^2 = .015$ . This suggests that positive affect ( $M = 2.73, SD = .62$ ) and negative affect ( $M = 1.67, SD = .74$ ) cannot explain the effects of inhibition salience.

<sup>5</sup> We report all manipulations, all data exclusions, and all measures in our studies, so we note that in both studies we also included assessed other types of reactions among our participants. The items not reported were included for exploratory purposes, did not affect the effects reported, and are available on request.

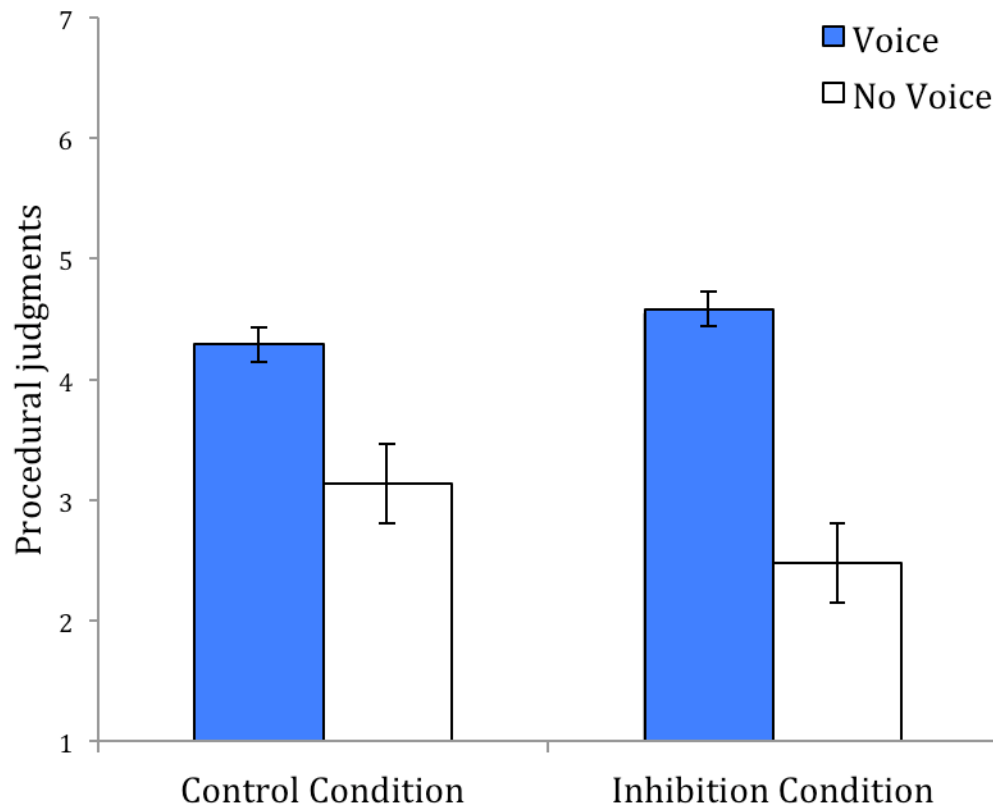


Fig. 1 Procedural judgments as a function of and being reminded about having behaved normally on a regular day (control condition) or being reminded having behaved with public inhibitions (inhibition condition) and procedure encountered (voice versus no-voice)

Note. Procedural judgments are on 7-points scales with higher values indicating more positive perceived procedural treatment. Error bars represent standard errors of the mean.

#### IV. STUDY 2

Study 1 provided initial support for the hypothesis that reminders of inhibited behavior lead people to react in stronger terms to no-voice procedures. The aim of Study 2 was to replicate this experiment with a different and more focused group of participants, namely law students, and in a less noisy setting than the campus context in which Study 1 was conducted. We wanted to make sure that the study was directly related to justice, and therefore focused on procedural justice judgments.

##### A. Method

###### 1) Participants and Design:

Fifty-seven law students (36 women) at Erasmus University Rotterdam who were enrolled in a third-year law school course participated voluntarily in the study during a lecture break.<sup>6</sup> Participants were assigned at random to one of the four cells of the 2 (salience: inhibited behavior versus normal-day behavior) x 2 (procedure: voice versus no voice) design. Participants' ages varied between 20 and 49 years; their mean age was 24.00 years ( $SD = 5.04$ ). The sample size was based on an a priori G-power analysis [34] with  $\alpha = 0.05$ , with a very high power of .99, and  $\eta_p^2 = .04$ , based on the interaction effect from Study 1.

###### 2) Experimental Procedure:

The experimental procedure used in Study 2 was the same as that in Study 1, with one exception: To assess the robustness of the effects studied here and to make sure that we focus on justice, we made some changes in our measure of procedural justice judgments. Specifically, in Study 2 our measure of procedural justice judgments consisted of three items that asked participants to rate how fair it was that they received or did not receive an opportunity to voice their opinion, how just it was that they received or did not receive an opportunity to voice their opinion, and how justified they thought it was that they received or did not receive an opportunity to voice their opinion (fair, just, justified; 1 = *not at all*, 7 = *very much*).

<sup>6</sup> We thank Sanne Taekema for allowing us to collect the data of Study 2 during this lecture break.



Participants' responses were averaged to create a scale of procedural justice judgments (which was reliable,  $\alpha = .94$ ). As in Study 1, the PANAS showed good reliability on its scales of positive ( $\alpha = .85$ ) and negative affect ( $\alpha = .84$ ).<sup>7</sup>

### B. Results

A 2 (salience: inhibited behavior versus normal-day behavior) x 2 (procedure: voice versus no voice) ANOVA using the procedural justice scale as the dependent variable showed a significant main effect of procedure,  $F(1, 46) = 57.78, p < .001, \eta_p^2 = .56$ . Procedural justice judgments were more positive following the voice than following the no-voice procedure. No significant main effect of inhibition salience was found,  $F(1, 46) = 1.79, p = .19, \eta_p^2 = .04$ . As in Study 1, we expected the predicted moderation effect of inhibition to appear as an interaction effect, and indeed the analysis yielded a significant inhibition salience x procedure interaction,  $F(1, 46) = 5.88, p = .019, \eta_p^2 = .11$ .<sup>8</sup> Fig. 2 shows the effects and respective standard errors.

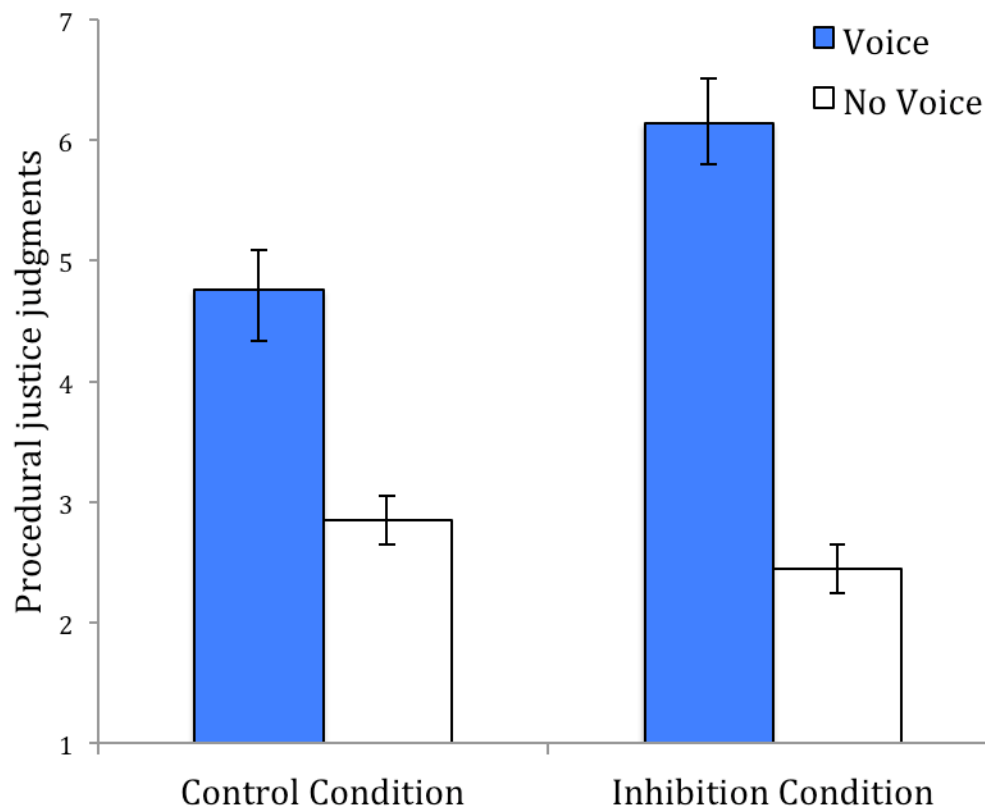


Fig. 2 Procedural justice judgments as a function of being reminded about having behaved normally on a regular day (control condition) or being reminded having behaved with public inhibitions (inhibition condition) and procedure encountered (voice versus no-voice)

Note. Procedural justice judgments are on 7-points scales with higher values indicating higher levels of perceived procedural justice. Error bars represent standard errors of the mean.

As predicted, there was a simple main effect of the procedure manipulation within the control condition,  $F(1, 46) = 11.72, p < .001, \eta_p^2 = .20$ . As in Study 1, and in further accordance with our hypothesis, the simple main effect of the procedure manipulation was stronger within the inhibition salient condition,  $F(1, 46) = 53.60, p < .001, \eta_p^2 = .54$ . Participants' procedural justice judgments were more strongly affected by receiving voice in the inhibition salient condition than in the control condition.

In Study 2, following voice procedures participants showed positive procedural justice judgments when reminded of normal-day behavior ( $M = 4.76, SE = .33$ ) and even more positive procedural justice judgments when they had been reminded of having acted with inhibitions ( $M = 6.14, SE = .37$ ),  $F(1, 46) = 4.91, p = .032, \eta_p^2 = .10$ . In this study, participants' responses to no-voice procedures were not statistically different when they had been reminded about normal-day behavior ( $M = 2.85, SE = .39$ ) or having acted with inhibitions ( $M = 2.45, SE = .36$ ),  $F(1, 46) = 3.83, p = .057, \eta_p^2 = .01$ .

<sup>7</sup> As in Study 1, inhibition salience had no significant effects on affect as measured by the positive subset of the PANAS,  $F(1, 54) = 0.16, p = .69, \eta_p^2 = .003$  ( $M = 2.69, SD = .70$ ), and the negative subset of the PANAS,  $F(1, 54) = 0.21, p = .65, \eta_p^2 = .004$  ( $M = 1.48, SD = .56$ ).

<sup>8</sup> Seven participants had missing values on the procedural justice judgments scale and hence were not part in the analyses, leaving a total of 50 participants.

## V. GENERAL DISCUSSION

People's judgments of procedural justice are important because these judgments shape people's acceptance of substantive outcome decisions and their trust in decision-making authorities [1, 2]. A variable that has been shown to strongly define people's procedural justice judgments is whether people are given an opportunity to voice their opinions or are denied that opportunity [6, 12]. The present research provides new insights into why it matters to people whether they receive voice or no voice.

In the current studies, we compared how people react to receiving voice or no voice when they were reminded of having behaved with public inhibitions with how people react to receiving voice or no voice when they were reminded of having behaved normally on a regular day. In the current studies, we moved beyond the previous findings by testing whether reminding people of times they acted with public inhibitions (versus reminding people of normal behavior on a regular day) led to more negative procedural judgments following no-voice procedures (Study 1) and to more positive procedural justice judgments following voice procedures (Study 2). This experimental strengthening of the often-observed effect of receiving voice or no voice on people's judgments of the way they were treated in the procedure was obtained using four open-ended questions that reminded people about acting with public inhibitions.

This experimental manipulation builds on previous research and theory that the behavioral inhibition system [20, 21] is a basic psychological system that produces a pause in ongoing activity which people can use to facilitate perception and judgment processes [17, 22-24, 38]. Findings of the pretest indicate that, as intended, reminders of having acted with public inhibitions did lead to participants feeling more inhibited as checked by a reliable scale specifically constructed for the current purposes. Reminders of having behaved with public inhibitions were also found to strengthen situational self-awareness, especially public situational self-awareness, and to some extent fear of negative evaluation, which fits with our line of reasoning. Thus, findings of the pretest indicate that it is reasonable to assume that reminding people of times they acted with public inhibitions (versus reminding people of normal-day behavior) was an experimental manipulation that indeed leads people to be more inhibited.

Future research is needed to examine further the magnitude of the effects of the manipulation that asked people to recall inhibited behavior. In our pretest, the internal consistency of the state version of Carver and White's [20] Behavioral Inhibition Scale was too low to allow us to check in a reliable and meaningful way whether our manipulation had an effect on that scale. In general, psychological constructs such as behavioral inhibition may be difficult to measure, particularly when using self-report measures. Moreover, when people are first asked to recall situations in which they acted with more public inhibitions, and are subsequently asked how they now feel, there is a chance that people now feel less inhibited than in the situation they had just recalled in which they felt more public inhibitions. Thus, testing the effects of this manipulation is something that needs to be done in a precise manner.

We found that when people were reminded of having behaved with public inhibitions, and hence were exposed to an experimental manipulation that heightened concerns for behavioral inhibition, this strengthened the impact of receiving voice or no voice on their procedural judgments (compared to when they were reminded of their normal-day behaviors). These findings extend recent findings presented by Hulst et al. [16] that when people were reminded of having acted with no public inhibitions, and hence were exposed to an experimental manipulation that has been shown to weaken behavioral inhibition [18], their reactions to the perceived justice of the procedure were attenuated (compared to when they were reminded of normal behavior on a regular day or compared to when there was no experimental intervention). The findings of Hulst et al. [16] supported our line of reasoning that when people's behavioral inhibition system was weakened by means of a disinhibition manipulation, then they should be less likely to engage in sense-making processes and hence less likely to be influenced by salient situational cues such as their perceptions of procedural justice. Thus, while reminders of having acted *without* inhibitions were found to *attenuate* people's reactions to the perceived fairness of the procedure [16], in the present research reminders of having acted *with* public inhibitions were found to *strengthen* people's reactions to the procedural fairness manipulation. Both the current findings and the findings obtained by Hulst et al. [16] suggest that higher levels of behavioral inhibition lead people to be more heavily influenced by factors that affect the psychology of procedural justice.

In the current studies, our dependent variables were people's judgments of the way people were treated. We slightly varied how we operationalized these judgments (procedural judgments in Study 1 and procedural justice judgments in Study 2) across the current studies. Our samples were diverse and included students from a variety of disciplines at two Dutch universities (Study 1) and third-year law school students from another Dutch university (Study 2).

The current findings were obtained in scenario studies and thus should be interpreted with caution. This noted, in real-world contexts such as the courtroom or the workplace there generally are ethical barriers to experimentally varying the justness of decision-making procedures. Therefore, we used scenarios to examine in a controlled manner the impact of experimentally manipulated voice and no-voice procedures on people's procedural justice judgments. There is, of course, a need for additional research to assess whether the current inhibition findings hold up in more vivid settings.

Indicative of the robustness of the hypothesis tested is that even in neutral scenario contexts used here we observed in both studies that the effect of receiving voice or no voice on people's procedural (justice) judgments was stronger when participants

had been reminded of having acted with public inhibitions. The specific pattern of findings that we obtained suggests that effects of inhibition salience occur on both reactions to being withheld voice (Study 1) and on reactions to receiving voice (Study 2).

Findings of the current studies are also consistent with a series of other experimental studies that reliably implied that activation of the behavioral inhibition system leads people to be more heavily influenced by situational forces [17, 18, 25, 39, 40]. For example, inhibited participants were more likely to refrain from help in bystander situations [18] and were more likely to be pleased with favorable but undeserved outcomes [25] than disinhibited participants. These earlier studies focused on people's reactions to situations in which they are confronted with various kinds of dilemmas. The findings of these studies reveal that people's inhibitions play an important role in how people respond to these dilemmas and how social values and issues of fulfilling social contracts can moderate these responses [17, 25]. The present study fits with that earlier body of research in suggesting that higher levels of behavioral inhibition lead people to be more heavily influenced by what happens in their social environment (in the current study, receiving voice or being withheld voice).

## VI. CONCLUSIONS

One aspect of the innovativeness of the current work lies in the fact that previous manipulations reminded participants of behavioral disinhibition. These manipulations *weakened* the effect of procedural justice. The current studies extend on these earlier findings by revealing for the first time that reminder of behavioral *inhibition strengthen* participants' reactions to voice and no-voice procedures regarding their procedural justice judgments. Importantly, the fact that the main prediction converges across the current studies is indicative of the robustness of the hypothesis tested in this paper. In testing these issues, we did not adopt a mediational approach to study the possible role of the behavioral inhibition system in reactions to voice and no-voice procedures. Instead, we chose to use a moderator approach (see also [41]). That is, we used a manipulation that (as indicated by our pretest) was related to at least some aspects of participants' levels of state inhibition (and related constructs). In our two main studies, we examined the effects this manipulation had on participants' procedural justice judgments. We think the moderator approach thus adopted is of use in trying to get at the possible role of behavioral inhibition in reactions to voice and no-voice procedures.

Findings from the current studies help to obtain insight into a thus far unexplored explanation of why it matters whether people receive voice in decision-making procedures or are being withheld voice. Specifically, we suggested that when people try to assess whether they are treated in a just or unjust manner, they may tend to inhibit ongoing behavior to allow for the processing of information to make judgments of procedural justice possible [22, 24]. During this state of behavioral inhibition, we argue, salient situational cues such as receiving voice or being denied voice will have a particularly strong impact on procedural justice judgments. Following a pretest that successfully checked the relevance of our salience manipulation for levels of state inhibition and associated variables, we found that reminding people of times they acted with public inhibitions led to more negative procedural judgments following no-voice procedures (Study 1) and to more positive procedural justice judgments following voice procedures (Study 2). Taken together, the findings reported suggest that the stronger impact of receiving voice or no voice on procedural judgments that we found when people were reminded of having acted with public inhibitions (compared to when people were reminded of having acted normally on a regular day) can be explained by the logic that strengthening behavioral inhibition strengthens the impact of receiving voice or no voice on people's procedural justice judgments. The implication of these studies may be that activation of the behavioral inhibition system is one of the reasons why the voice effect often occurs.

## REFERENCES

- [1] T. R. Tyler, *Why People Obey the Law*, Princeton, NJ, USA: Princeton University Press, 2006.
- [2] T. R. Tyler and Y. J. Huo, *Trust in the Law: Encouraging Public Cooperation with the Police and Courts*, New York, NY, USA: Russell Sage Foundation, 2002.
- [3] K. van den Bos, "Humans making sense of alarming conditions: Psychological insight into the fair process effect," M. L. Ambrose and R. S. Cropanzano, Eds., *Oxford Handbook of Justice in Work Organizations* (pp. 403-417), Oxford, UK: Oxford University Press, 2015.
- [4] J. Brockner, *The Process Matters: Engaging and Equipping People for Success*, Princeton, NJ, USA: Princeton University Press, 2016.
- [5] R. Folger, "Distributive and procedural justice: Combined impact of "voice" and improvement of experienced inequity," *Journal of Personality and Social Psychology*, vol. 35, pp. 108-119, 1977.
- [6] R. Folger, D. Rosenfield, J. Grove, and L. Corkran, "Effects of "voice" and peer opinions on responses to inequity," *Journal of Personality and Social Psychology*, vol. 37, pp. 2253-2261, 1979.
- [7] E. A. Lind, R. Kanfer, and P. C. Earley, "Voice, control, and procedural justice: Instrumental and noninstrumental concerns in fairness judgments," *Journal of Personality and Social Psychology*, vol. 59, pp. 952-959, 1990.
- [8] E. A. Lind and T. R. Tyler, *The Social Psychology of Procedural Justice*, New York, NY, USA: Plenum, 1988.
- [9] J. Thibaut and L. Walker, *Procedural Justice: A Psychological Analysis*, Hillsdale, NJ, USA: Erlbaum, 1975.
- [10] J. Thibaut and L. Walker, "A theory of procedure," *California Law Review*, vol. 66, pp. 541-566, 1978.
- [11] T. R. Tyler, "Conditions leading to value-expressive effects in judgments of procedural justice: A test of four models," *Journal of*

- Personality and Social Psychology*, vol. 52, pp. 333-344, 1987.
- [12] T. R. Tyler and E. A. Lind, "A relational model of authority in groups," M. P. Zanna, Ed., *Advances in Experimental Social Psychology* (vol. 25, pp. 115-191), San Diego, CA, USA: Academic Press, 1992.
  - [13] T. R. Tyler, K. A. Rasinski, and N. Spodick, "Influence of voice on satisfaction with leaders: Exploring the meaning of process control," *Journal of Personality and Social Psychology*, vol. 48, pp. 72-81, 1985.
  - [14] K. van den Bos, "What are we talking about when we talk about no-voice procedures? On the psychology of the fair outcome effect," *Journal of Experimental Social Psychology*, vol. 35, pp. 560-577, 1999.
  - [15] K. van den Bos, R. Vermunt, and H. A. M. Wilke, "The consistency rule and the voice effect: The influence of expectations on procedural fairness judgements and performance," *European Journal of Social Psychology*, vol. 26, pp. 411-428, 1996.
  - [16] L. Hulst, K. van den Bos, A. J. Akkermans, and E. A. Lind, "On why procedural justice matters in court hearings: Experimental evidence that behavioral disinhibition weakens the association between procedural justice and evaluations of judges," unpublished, 2016.
  - [17] K. van den Bos and E. A. Lind, "On sense-making reactions and public inhibition of benign social motives: An appraisal model of prosocial behavior," J. M. Olson and M. P. Zanna, Eds., *Advances in Experimental Social Psychology* (vol. 48, pp. 1-58), Burlington, MA, USA: Academic Press, 2013.
  - [18] K. van den Bos, P. A. Müller, and A. A. L. van Bussel, "Helping to overcome intervention inertia in bystander's dilemmas: Behavioral disinhibition can improve the greater good," *Journal of Experimental Social Psychology*, vol. 45, pp. 873-878, 2009.
  - [19] K. van den Bos, E. A. Lind, R. Vermunt, and H. A. M. Wilke, "How do I judge my outcome when I do not know the outcome of others? The psychology of the fair process effect," *Journal of Personality and Social Psychology*, vol. 72, pp. 1034-1046, 1997.
  - [20] C. S. Carver and T. L. White, "Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales," *Journal of Personality and Social Psychology*, vol. 67, pp. 319-333, 1994.
  - [21] J. A. Gray and N. McNaughton, *The Neuropsychology of Anxiety: An Enquiry into the Functions of the Septo-hippocampal System*, Oxford, UK: Oxford University Press, 2000.
  - [22] S. L. Gable, H. T. Reis, and A. J. Elliot, "Behavioral activation and inhibition in everyday life," *Journal of Personality and Social Psychology*, vol. 78, pp. 1135-1149, 2000.
  - [23] E. N. Aron and A. Aron, "Sensory-processing sensitivity and its relation to introversion and emotionality," *Journal of Personality and Social Psychology*, vol. 73, pp. 345-368, 1997.
  - [24] E. N. Aron, A. Aron, and J. Jagiellowicz, "Sensory processing sensitivity: A review in the light of the evolution of biological responsiveness," *Personality and Social Psychology Review*, vol. 16, pp. 262-282, 2012.
  - [25] K. van den Bos, P. A. M. van Lange, E. A. Lind, L. A. Venhoeven, D. A. Beudeker, F. M. Cramwinckel, L. Smulders, and J. van der Laan, "On the benign qualities of behavioral disinhibition: Because of the prosocial nature of people, behavioral disinhibition can weaken pleasure with getting more than you deserve," *Journal of Personality and Social Psychology*, vol. 101, pp. 791-811, 2011.
  - [26] K. van den Bos, R. Vermunt, and H. A. M. Wilke, "The consistency rule and the voice effect: The influence of expectations on procedural fairness judgements and performance," *European Journal of Social Psychology*, vol. 26, pp. 411-428, 1996.
  - [27] K. van den Bos, H. A. M. Wilke, and E. A. Lind, "When do we need procedural fairness? The role of trust in authority," *Journal of Personality and Social Psychology*, vol. 75, pp. 1449-1458, 1998.
  - [28] J. M. Govern and L. A. Marsch, "Development and validation of the Situational Self-Awareness Scale," *Consciousness and Cognition*, vol. 10, pp. 366-378, 2001.
  - [29] M. Leary, "A brief version of the fear of negative evaluation scale," *Personality and Social Psychology Bulletin*, vol. 9, pp. 371-375, 1983.
  - [30] R. N. Carleton, D. R. McCreary, P. J. Norton, and G. J. G. Asmundson, "Brief fear of negative evaluation scale: Revised," *Depression and Anxiety*, vol. 23, pp. 297-303, 2006.
  - [31] T. L. Rodebaugh, C. M. Woods, D. M. Thissen, R. G. Heimberg, D. L. Chambless, and R. M. Rapee, "More information from fewer questions: the factor structure and item properties of the original and brief fear of negative evaluation scale," *Psychological Assessment*, vol. 16, pp. 169-181, 2004.
  - [32] J. C. Nunnally and I. H. Bernstein, *Psychometric Theory*, New York, USA: McGraw-Hill, 1994.
  - [33] R. D. Lennox and R. N. Wolfe, "Revision of the self-monitoring scale," *Journal of Personality and Social Psychology*, vol. 46, pp. 1349-1364, 1984.
  - [34] F. Faul, E. Erdfelder, A. G. Lang, and A. Buchner, "G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences," *Behavior Research Methods*, vol. 39, pp. 175-191, 2007.
  - [35] K. van den Bos, "What is responsible for the fair process effect?," J. Greenberg and J. A. Colquitt, Eds., *Handbook of Organizational Justice: Fundamental Questions about Fairness in the Workplace* (pp. 273-300), Mahwah, NJ, USA: Erlbaum, 2005.
  - [36] J. Cohen, "A power primer," *Psychological Bulletin*, vol. 112, pp. 155-159, 1992.
  - [37] D. Watson, L. A. Clark, and A. Tellegen, "Development and validation of brief measures of positive and negative affect: The PANAS scales," *Journal of Personality and Social Psychology*, vol. 54, pp. 1063-1070, 1988.
  - [38] J. Kagan, "The concept of behavioral inhibition to the unfamiliar," J. S. Reznick, Ed., *Perspectives on Behavioral Inhibition* (pp. 1-24), Chicago, IL, USA: University of Chicago Press, 1989.
  - [39] K. van den Bos, E. A. Lind, J. Bommelé, and S. D. J. VandeVondele, "Reminders of behavioral disinhibition increase public conformity in the Asch paradigm and behavioral affiliation with ingroup members," *Frontiers in Psychology*, vol. 6, article number 837, 2015.
  - [40] K. van den Bos, P. A. Müller, and T. Damen, "A behavioral disinhibition hypothesis of interventions in moral dilemmas," *Emotion Review*, vol. 3, pp. 281-283, 2011.

- [41] S. J. Spencer, M. P. Zanna, and G. T. Fong, "Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes," *Journal of Personality and Social Psychology*, vol. 89, pp. 845-851, 2005.